

Digital agriculture as a new driving force for China's economic growth

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As China's urbanization process accelerates, China's agricultural population has gradually moved from rural areas to cities. In February 2020, the China National Economic and Social Development Statistical Bulletin issued by the National Bureau of Statistics of China mentioned that by the end of 2019, the country's urban permanent population was 848.43 million, it accounted for 60.60% of the total population (the urbanization rate of permanent residents), an increase of 1.02 percentage points from the end of the previous year. An important factor causing the rapid increase in the urban permanent population is that a large number of young laborers in rural China have entered the cities to seek better development opportunities. At the end of 2019, China's floating population accounted for 16.86% of the total population and reached 236 million people. Migrant peasant-workers account for the vast majority of the floating population. In 2019, the total number of peasant-workers in China was 29.77 million, an increase of 0.8% over the previous year. Among them, peasant-workers were 174.25 million, an increase of 0.9%; local peasant-workers were 116.52 million, an increase of 0.7%. [1]

These peasant-workers enter the city to work or no longer engage in agricultural production, resulting in a serious shortage of rural labor resources. There are two main reasons for this phenomenon: First, the rapid development of China's cities can provide employment, medical care, education and other guarantees for more people to live in cities, another reason is China's widening income gap between urban and rural areas, the difference between the disposable income of Chinese rural residents and the disposable income of urban residents has risen from 17,038 yuan in 2013 to 26,338 yuan in 2019. The unbalanced development of China's urban and rural areas is an urgent problem to be solved in China's economic development.

To the revitalization of China's rural economy, reducing the gap between urban and rural areas, to guide the young rural labor flow back to the countryside. China formulated the "Outline of Digital Rural Development Strategy" in 2019. This outline proposes that "digital Rural" should be regarded as an important aspect of the construction of "digital China", speeding up the development of informatization, and overall driving and upgrading the modernization of agricultural and rural development. According to the content of this outline, by 2020, the construction of digital villages will make initial progress. The 4G coverage rate of administrative villages nationwide has exceeded 98%, and the Internet penetration rate in rural areas has increased significantly; by 2025, significant progress has been made in the construction of digital villages. A batch of new farmers and new technology entrepreneurship and innovation centers with functions of entrepreneurial incubation, technological innovation, and skills training will be initially established; by 2035, great progress will be made in the construction of digital villages, the digital literacy of farmers has been significantly improved, the modernization of agriculture and rural areas has basically been realized, and the equalization of basic public services in urban and rural areas has basically been realized. By the middle of this century, a digital village will be fully built.

At present, Taigu County in Shanxi Province, China has built an intelligent tomato greenhouse, which can coordinate temperature, light, water supply and fertilization through artificial intelligence monitoring. DJI, a famous Chinese drone manufacturer, is also working hard to improve the technological innovation level of agricultural drones and optimize the intelligent system of agricultural drones. This system includes geographic systems, agricultural machinery supervision, farm management, and agricultural production system etc. This system is based on the platform of digital agriculture, and is related to positioning and collecting data to realize the intelligent management of farmland through drones to patrol the field and collect data. An intelligent farm can rely on digital agriculture solutions to achieve intensive farming and make agriculture get more output in production. In the construction of an intelligent agricultural supply and marketing platform, China's e-commerce platform Alibaba's first digital farm has officially landed in Kezhong Youqi, a national impoverished county in China. This digital farm will be digitized in terms of cultivation, management, harvesting, warehousing, processing, trading and transportation.

A large number of technology companies continue to innovate in the construction of digital countryside, and realize the application of diversified agricultural technologies such as the Internet of Things, precise fertilization, early warning, and AI identification of pests to agricultural production. Through the continuous innovation and application of artificial intelligence technology in agriculture, it is expected that in 2025, China's agricultural digital economy will increase from 7.3% in 2018 to 15% of agricultural value added, and the proportion of agricultural product online retail sales in total agricultural product transactions will increase from 9.8% increased to 15%.[2]

It is foreseeable that through the construction of digital countryside, the gap in digital development between cities and villages in China will be reduced. Digital countryside, as a key national economic project, will greatly increase agricultural income. At the same time, rural infrastructure such as employment, medical care, education, etc. will be greatly improved and enhanced relying on the development of Internet technology, and rural areas will be able to enjoy the same infrastructure conditions as large cities. The above measures will guide more young rural laborers to return to the countryside, and even attract more high-quality talents to the countryside to develop the digital agricultural economy, making digital agriculture a new driving force for China's economic growth. It is worth mentioning that China has won the final victory in the fight against poverty. Artificial intelligence has played an indispensable role in the realization of the innovative theory of precision poverty alleviation.

References

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